

7-year-old girl with Lyme disease presenting as attention deficit disorder

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Susan, a 7-year-old girl who had difficulty focusing in school, was initially diagnosed by a neurologist with probable attention deficit disorder. But she exhibited numerous other symptoms consistent with Lyme disease, as described by Fallon from the Department of Psychiatry, Columbia University Medical Center and the Lyme Disease Research Program, New York.

These symptoms included:

1. Lethargy
2. Irritability
3. Forgetfulness
4. Headaches
5. Poor coordination
6. Joint pain
7. Word-finding difficulties
8. Light and sound sensitivity

The young girl's medical workup revealed a positive Lyme ELISA. After starting antibiotic treatment, her attention deficit disorder resolved and her school grades returned to normal. "Her course over the subsequent 2 years appeared to be antibiotic-dependent, such that she would do well as long as she stayed on antibiotics and relapse when taken off," writes Fallon and colleagues in [an article entitled, "The underdiagnosis of neuropsychiatric Lyme disease in children and adults."](#)

From age 9 to 12, she remained symptom-free without the need for antibiotics and maintained A to A+ grades. Unfortunately, at age 12 symptoms appeared to return. She developed knee pain, frequent headaches, and poor concentration.

Again, serologic tests were positive by ELISA, IgG and IgM western blots. She rapidly improved with a two-month course of oral cefuroxime. Her symptoms recurred two months after the end of treatment.

Her teacher reported numerous problems, including:

1. "trouble with consistency in day-to-day work; careless; head in the clouds; scattered and sloppy work; assignments are late, forgotten, or lost; difficult time following directions; more forgetful and disorganized."
2. "Her parents noted that Susan would go to school with homework in her bag but once there have no idea where it was or whether she had done it."

3. “Emotionally, she had become frustrated, overwhelmed, tearful, aggressive, and fearful with new onset phobias and nightmares.”
4. “Physically, she had knee pain with mild swelling, paresthesias, headaches, moderate fatigue, insomnia, and trouble focusing.”

Her neurocognitive testing revealed 6 of 9 inattention areas consistent with attention deficit hyperactivity disorder (ADHD), no depression or suicidal feeling, a verbal IQ of 132, “but significant deficits in visual motor planning, speed of processing, visual scanning, attention, visual memory, and learning,” according to Fallon.

Subsequently, Susan was diagnosed with a persistent encephalopathy secondary to Lyme disease and, after several months of oral antibiotics, returned to normal without ADHD.

References:

1. Fallon BA, Kochevar JM, Gaito A, Nields JA. The underdiagnosis of neuropsychiatric Lyme disease in children and adults. *Psychiatr Clin North Am.* 1998;21(3):693-703, viii.

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